# ART. XII.—*Instruments for Facilitating Surgical Operations.* By D. PRINCE, M. D., of Jacksonville, Ill. (With two wood-cuts.)

Two things are most desirable for a surgeon: 1st. To possess the versatility and dexterity to perform operations with the smallest number of instruments and of the simplest construction; and 2d. Instruments of easy management, the use of which may shorten the duration of an operation, and diminish its danger.

This contribution is to the latter of these two ends.

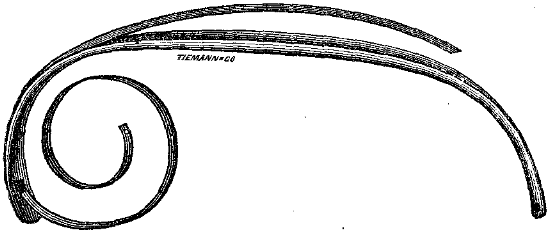
I. In an article upon exsections and amputations, in the number of this Journal for April, 1865, a *retractor* of simple construction is figured, the original design of which is attributed to Dr. C. A. Pope, of St. Louis.

By the aid of Mr. Stohlmann, of the firm of Tiemann & Co., N. Y., the instrument has been modified to answer several purposes, in addition to the one for which it was originally intended.

The first design of the *retractor* was to enable the operator to dispense with the use of the chain saw in exsections of the upper end of the humerus and some other bones, greatly shortening the time necessary for the operation; and in amputation of the humerus and femur, to enable the operator easily to saw the bone with a common saw, before cutting the posterior or inner flap containing the principal artery. By this proceeding, the operator is enabled to hold the artery between the thumb and fingers of his left hand while the final cut is made through the soft parts. The great vessel is thus exposed clearly to view, and can be immediately seized and tied. The necessity for a tourniquet, and for pressure upon the artery by the fingers anywhere in the proximal direction from the place of amputating, are both obviated.

As seen in the figure (Fig. 1), the instrument retains its former shape and function at one end. This curved probe, on the right of the figure, is untempered, so as to be easily adapted to the encircling of bones of different diameters, in order to insinuate it between the bone and the soft parts; to be followed by the body of the instrument, which then effectually separates the bone from the uncut portion of the soft parts. Then, upon turning the instrument over, the groove, upon that aspect which is convex in the direction of its length, is brought next the bone, to receive the saw as it passes through the bone. The other end of the instrument is modified to serve three purposes.

Fig. 1.



*First*, it is flattened, in order that it may be a convenient *retractor* for holding aside the lips of any wound, in the progress of an operation.

*Second*, it has a thick edge, for the purpose of peeling up periosteum in amputations, exsections, or the destruction of portions of the provisional sheath over sequestra, in the perforations necessarily made through which to extract the fragments of dead bone. The instrument then performs the office of periosteotome. By preserving all the periosteum, in connection with the superimposed soft parts, the destruction of bone necessarily made, as steps in the operation, may be expected to be completely repaired. The body of the instrument makes a good handle for this *scraper*.

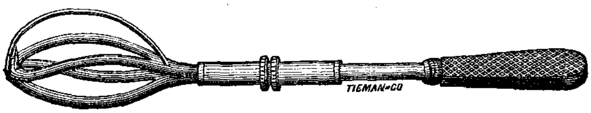
*Third*, a spring is adapted which may be employed to conduct a chain saw; whenever it may be desired to introduce it. The flat end of the instrument, armed with the *spring conductor*, is first passed under and around the bone or other part, when the spring is to be pushed along, until it can be seized by fingers or forceps. The chain saw, or a ligature, previously attached to the free end, can then be drawn along the groove in the body of the instrument, seized, and detached, after which, the retractor with its spring conductor, can be withdrawn together; or, as soon as the spring conductor is first seized, it can be held, while the retractor can be withdrawn, leaving the spring conductor in place; after which, the chain saw, or ligature, can be drawn into its position, by attaching it to either end of the spring conductor.

With such an instrument, put up in every amputating and exsecting case, it is believed, that it will be found to be a very important addition, to the surgeon's armamentarium.

II. It had often occurred to the writer, that the conveniencies and securities of the tenaculum and of the forceps, in seizing and holding arteries, should be combined, so as to make an instrument more convenient and more secure than either alone.

This *tenaculum forceps* (Fig. 2) is the realization of that desideratum. The instrument is represented as closed. It is first, a fenestrated forceps, the upper blade turning upon a hinge which is concealed in the figure, by the slide in the central part of the instrument. By this hinge, the upper blade turns over, nearly upon the handle. It will do this as soon as the slide is drawn toward the handle, impelled by a spring which is concealed in the figure. When the upper blade of the forceps is turned over upon the handle, the instrument is a tenaculum, having a point or hook projecting from the extremity of the stationary lower blade. The instrument in this condition is applied to a bleeding artery like an ordinary tenaculum. The upper blade is then pushed down upon the lower, and retained by the slide. The instrument then acts the part of tenaculum and forceps combined, and the blades are made wide enough to stop the bleeding from any artery smaller than the upper femoral.

Fig. 2.



When the artery is secured by this instrument, the blood is arrested at the same time, so that it is a question of convenience whether the ligature or an acupressure needle shall be immediately applied. The compression of a small vessel between the blades of the instrument for a little time, while the remainder of the operation is progressing, will often permanently arrest the hemorrhage. For the greatest convenience to this end, several instruments of the same kind should be at hand.

It will be observed, by looking at the figure, that the tenaculum point is protected by a guard, which gives two fenestræ to the upper blade. This is done for the convenience of applying a ligature. When the noose of the ligature is over the largest swell of the blades of the instrument, it is only necessary to draw upon it, and it slides to its position without any possibility of catching upon the point.

The writer has put the instrument to the test of several years' use with increasing appreciation of its value. There is but one drawback to the instrument. It is impossible to have it of such a size as to be a practical working instrument, and have a *pocket-case* instrument at the same time. As it exposes neither points nor corners, however, it may very conveniently be carried in one's pocket ready for use at any time.

## ART. XIII.—*Reduction of an Inverted Uterus of Seven Months' Standing.* By THOMAS ADDIS EMMET, M. D., Surgeon to the State Woman's Hospital, New York. [Read before the New York Obstetrical Society, Nov. 21st, 1865.]

MRS. Q., aged 24, came under my charge Oct. 8, and presented the following history: She had menstruated for the first time at eleven years of age, with no return for a year, but after this period she became regular and continued in perfect health. She was married at 22 years of age; soon afterwards became pregnant and went to full term. Labour commenced between the hours of nine and ten P. M., March 11, 1865. She was attended by a homœopathic practitioner, who was called in attendance at once and remained all night. The progress of the labour, it seems, was perfectly natural. About eleven A. M., the attendant ruptured the membranes, and delivery took place of a large male an hour afterwards, labour having continued nearly thirteen hours. As the head passed the vulvæ, it was discovered that the umbilical cord had made several turns around the child's neck; the cord, as stated, was immediately slipped over the head without traction, the body followed immediately, and soon afterwards the placenta. Within an hour after delivery the patient suddenly became faint, with violent after-pains coming on. This condition continued for some forty-eight hours, with a bloody discharge, which, at the time of a pain, was expelled from the vagina with considerable force. After the pains had ceased, the discharge continued more than natural, and at times was almost pure blood About a week after delivery the nurse discovered a mass presenting just within the vagina. An examination was made by the attendant, a consultation called, and the case pronounced (as the patient states) one of cauliflower-growth. She returned home to her friends, in Utica, at the end of the month, still suffering from a constant sanguineous discharge. Her general health at length became so much impaired that Dr. McCall, of Utica, was consulted, and he recommended her to my care.

She presented every indication of suffering from extreme anæmia, with a pulse of 140, and a loud cardiac murmur following any exertion. On